

REMARKS/ARGUMENTS

The Examiner objected to certain informalities with respect to claims 1, 12, and 14-18. Applicants have amended the claims to correct the noted objections.

Applicants amended rejected claim 1 to clarify the preamble and certain elements and limitations. For instance, applicants changed “digital data processor” to “processor.

The Examiner found that claims 2, 4-11, and 13-17 would be allowed if rewritten in independent form. Applicants amended claims 2 and 4 to include the requirements of amended claim 1. Applicants made further amendments to claims 2 and 4, as well as 5-11, to clarify the preamble and certain elements and limitations, such as the processor element. Applicants submit that claims 2 and 4 are now in condition for allowance. Further, amended claims 5-11 are in condition for allowance because they depend from allowable claim 4.

Applicants amended rejected claim 12 to recite the storage device as a positive element and move the manager limitation to precede the processor limitation. Applicants further clarified the language of the processor limitation and the elements executed by the processor. Applicants amended claim 13 to include the requirements of amended claim 12. Applicants submit that claim 13 is now in condition for allowance. Further, claims 14-17 are in condition for allowance because they depend from allowable claim 13.

Applicants added claims 21-30 and 31-41 to substantially include requirements of claims 1-11 in method and computer readable media, i.e., article of manufacture, forms. Applicants submit that these added claims are patentable over the cited art and in condition for allowance for the reasons discussed with respect to claims 1-11.

The Examiner rejected claims 1 and 3 as obvious (35 U.S. C. §103) as obvious over Cabrera (U.S. Patent No. 6,119,131) and (Cameron U.S. Patent No. 5,325,526). Applicants traverse.

Amended claim 1 recites a system in a storage area network (SAN) coupled to at least one storage device, and comprising: a processor in communication with the at least one storage device; a plug-and-play manager that generates an event in response to a change in status of at least one of the storage devices; one or more processes executing on the processor, the one or more processes referencing at least a selected one of the storage devices using a previously assigned logical identification; and at least a selected one of the processes responding to the

event generated by the plug-and-play manager by querying the storage device for information with respect to which the event was generated, and generating from the queried information the a logical identification for that storage device.

The Examiner found that FIG. 4, col. 3, lines 4-9 and col. 13, lines 18-64 of Cabrera teaches the claim requirement that at least a selected one of the processes responds to the event generated by the plug-and-play manager by querying the storage device for information with respect to which the event was generated, and generating from the queried information a logical identification for that storage device. (Office Action, pg. 3) Applicants traverse.

The cited col. 3 mentions associating unique volume identifiers, the persistent names, and the logical volume without requiring a separate mount manager. Although the cited col. 3 mentions associating names with logical volumes, nowhere does the cited col. 3 teach or suggest that a process responds to an event generated by a plug-n-play manager by querying a storage device for information with respect to which the event was generated and generating from the queried information a logical identification for that storage device. There is no mention in the cited col. 3 of a process responding to an event generated by a plug-n-play manager to query the storage device and generate a logical identification as claimed.

The cited col. 3 mentions that a partition manager requests notification from a plug-n-play manager of all volume managers and the plug-n-play manager notifies a partition manager which maintains a list of volume managers. Further, the plug-n-play manager loads device drivers to handle I/O access. The device driver enumerates partition device objects used to access the data. The partition manager captures the partition device objects before the driver registers the object with the plug-n-play manager and presents each partition device object to the volume managers. Each partition device object is associated with a logical volume. The volume manager assigns device names to logical names when receiving a sufficient number of partition device objects.

Nowhere does the cited col. 3 anywhere teach or suggest that a process responds to an event generated by a plug-n-play manager by querying a storage device for information with respect to which the event was generated and generating from the queried information a logical identification for that storage device. Instead, in the cited col. 3, the plug-n-play manager loads device drivers to handle I/O access. The device driver then enumerates the partition device

objects, which are then used to provide information on the device to various components, such as the partition manager and volume manager.

Nowhere does the cited col 3 suggest or mention that a process responding to an event by a plug-n-play manager queries a storage device having a physical address associated with the event for information on the logical identifier of the device. The cited col. 3 mentions that each partition device object is associated with a logical volume (col. 13, lines 37-41), but nowhere suggests the claim requirement that a process in response to the plug-n-play event queries a storage device having a physical address associated with the event to get information on the logical identifier of the device.

The Examiner did not cite Cameron for the above discussed limitations whose requirements were not taught or suggested by the cited Cabrera.

Accordingly, amended claim 1 is patentable over the cited art because the cited references do no teach or suggest, alone or in combination, the requirements of claim 1.

Amended claim 3 is patentable over the cited art because it depends from claim 1, which is patentable over the cited art for the reasons discussed above.

The Examiner rejected claim 12 as obvious (35 U.S.C. §103) over Cabrera in view of "Deriving Unique Names in a Distributed Storage Management Environments", IBM Technical Disclosure Bulletin, Vol. 1, No. 05, May 1993 (the "IBM reference"). Applicants traverse.

Amended claim 12 recites a storage area network (SAN), comprising: at least one storage device, each having a physical address; a manager, wherein the manager assigns a logical identifier to each of the storage devices; at least one processor in communication with the at least one storage device and the manager executing: (i) a plug-n-play manager that generates an event in response to a change in status of at least one of the storage devices, the event referencing the physical address of the storage device having the change in status; (ii) an agent in communication with the manager to receive the logical identifiers; and (iii) a process that responds to the event generated by the plug-and-play manager to query the storage device having the physical address associated with the event for information regarding the logical identifier of that storage device.

The Examiner cited col. 11, lines 50-60 of Carbrera as teaching the claim requirement of a process that responds to the event generated by the plug-and-play manager to query the storage

device having the physical address associated with the event for information regarding the logical identifier of that storage device. (Office Action, pg. 4) Applicants traverse.

The cited col. 11 mentions a query function of a mount manager. An operating system queries the mount manager regarding a mounted logical volume by passing a symbolic link name, the unique volume identifier or boot session name. The mount manager returns an entry in its memory data structure to the operating system. Although the cited col. 11 discusses how a an operating system queries a mount manager regarding a mounted logical volume by passing a symbolic link, nowhere does the cited col. 11 teach or suggest the claim requirement that a process, responding to an event generated by a plug-n-play manager, query a storage device having the physical address associated with the event for information regarding the logical identifier of that storage device. There is no mention in the cited col. 11 of the claimed operations to acquire the logical identifier occurring in response to an event from a plug-n-play manager to query the storage device.

Further, the cited col. 11 nowhere teaches or suggests that a process obtains logical identifiers by querying the storage device. Instead, the cited col. 11 discusses how an operating system queries a mount manager regarding a mounted logical volume, not the storage device having a physical address associated with an event from a plug-n-play manager as claimed.

The Examiner did not cite the IBM reference for the above discussed limitations whose requirements were not taught or suggested by the cited Cabrera.

Accordingly, amended claim 12 is patentable over the cited art because the cited references do no teach or suggest, alone or in combination, the requirements of claim 12.

Conclusion

For all the above reasons, Applicant submits that the pending claims 1-17 and 20-41 are patentable over the art of record. Applicants submit herewith the fee for the claim amendments. Nonetheless, should any additional fees be required, please charge Deposit Account No. 09-0466.

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The attorney of record invites the Examiner to contact him at (310) 553-7977 if the Examiner believes such contact would advance the prosecution of the case.

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